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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/671,289 | 09/25/2003 | Theodorus Henricus Gerardus Maria Peters | 903-86 | 1500 |

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| EXAMINER | |
|---|---|
| MRUK, GEOFFREY S | |
| **ART UNIT** | **PAPER NUMBER** |
| 2853 | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/671,289 | PETERS ET AL. | |
| | Examiner | Art Unit | |
| | Geoffrey Mruk | 2853 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-4,6-8 and 10-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-8 and 10-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6-8, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breton et al. (US 5,211,747) in view of Breton et al. (US 5,254,158) and Taguchi (7,052,534 B2).

With respect to claim 1, Breton discloses a method for printing a substrate with ink drops according to the "drop-on-demand" principle (Column 1, lines 10-11), which substrate is provided (Column 1, lines 17-20), using an ink jet printing device (Column 1, line 8), the printhead of which is provided with a element for generating ink drop, the method comprising the steps of supplying the substrate, generating ink drops and depositing the generated ink drops on the substrate (Column 1, line 7), wherein the ink from which the ink drops are formed, has an ink composition which comprises a water-soluble dye (Column 6, lines 1-6), water (Column 5, lines 42-44), a lower alcohol (Column 6, lines 36-37) and humectant (Column 6, lines 32-35), wherein the lower alcohol content is 5-30% by weight (Column 6, lines 37-40), and wherein the humectant to lower alcohol weight ratio is between 0.10 and 1.50 (Column 6, lines 32-40).

With respect to claim 2, Breton discloses the lower alcohol is selected from the group consisting of monohydric alcohols having 1-4 carbon atoms (Column 6, lines 36-37).

With respect to claim 3, Breton discloses the lower alcohol comprises isopropanol (Column 6, line 37).

With respect to claim 4, Breton discloses the humectants comprise one or more polyhydric alcohols, polyethylene glycols, or polypropylene glycols (Column 6, lines 32-36).

With respect to claim 6, Breton discloses the lower alcohol (Column 6, lines 36-40) to water (Column 2, lines 55-57, wt. % of desizing agent; Column 3, lines 18-19) weight ratio is between 0.08 and 0.6.

With respect to claim 8, Breton discloses the ink composition comprises a water-soluble dye (Column 6, lines 1-6), water (Column 5, lines 42-44), lower alcohol (Column 6, lines 36-37) and humectant (Column 6, lines 32-35), the lower alcohol content thereof being 5-30% by weight (Column 6, lines 37-40), the lower alcohol (Column 6, lines 36-40) to water (Column 2, lines 55-57, wt. % of desizing agent; Column 3, lines 18-19) weight ratio being between 0.08 and 0.6, and wherein the humectant to lower alcohol weight ratio is between 0.10 and 1.50 (Column 6, lines 32-40).

With respect to claim 10, Breton discloses the ink composition consists essentially of dye (Column 6, lines 1-6), water (Column 5, lines 42-44), lower alcohol (Column 6, lines 36-37) and humectant (Column 6, lines 32-35).

With respect to claim 11, Breton discloses the ink composition consists essentially of dye (Column 6, lines 1-6), water (Column 5, lines 42-44), lower alcohol (Column 6, lines 36-37) and humectant (Column 6, lines 32-35).

With respect to claim 12, Breton discloses the ink composition further comprises an additive selected from the group of surfactants (Column 5, lines 26-35), bactericides and fungicides (Column 6, lines 28-32).

With respect to claim 13, Breton discloses the ink composition further comprises one or more additives selected from the group comprising surfactants (Column 5, lines 26-35) bactericides and fungicide (Column 6, lines 28-32).

However, Breton (US 5,211,747) fails to disclose:

- the printhead of which is provided with a piezo element for generating ink drops,
- a substrate is provided with a polymeric ink-receiving layer, wherein the polymeric ink-receiving layer is made from a swelling polymer, and
- wherein the ink composition has a viscosity greater than 3cP.

1. Breton (US 5,254,158) discloses ink jet compositions where the printhead of which is provided with a piezo element for generating ink drops (Column 1, lines 37-57), and wherein the ink composition (Column 2, lines 38-41) has a viscosity greater than 3cP (Column 10, lines 59-66).

At the time of the invention, it would have been obvious to use the teachings of Breton (US 5,254,158) for the ink jet composition of Breton (US 5,211,747). The motivation for doing so would have been "In addition, a need exists for ink compositions suitable for ink jet printing which enable rapid drying times without lost line edge quality

when printed on plain papers. Further, there is a need for ink compositions suitable for ink jet printing which enable improved print quality. Additionally, there is a need for ink compositions suitable for ink jet printing which exhibit desirable surface tension characteristics" (Column 3, lines 45-52).

2. Taguchi (7,052,534 B2) discloses an inkjet recording method and a substrate that is provided with a polymeric ink-receiving layer, wherein the polymeric ink-receiving layer is made from a swelling polymer, where "The support far preferred in the invention is paper laminated with polyolefin (e.g., polyethylene, polypropylene and ethylene-propylene copolymer) or polyethylene terephthalate on both sides, or plastic film. To the polyolefin, a white pigment (e.g., titanium dioxide, zinc oxide) or a tinting dye (e.g., cobalt blue, ultramarine blue, neodymium oxide) is preferably added. In an image-receiving layer provided on the support, a porous material and an aqueous binder are incorporated. Further, a pigment is preferably contained therein, and a white pigment is suitable as the pigment. Examples of a white pigment include inorganic pigments, such as calcium carbonate, kaolin, talc, clay, diatomaceous earth, synthetic amorphous silica, aluminum silicate, magnesium silicate, calcium silicate, aluminum hydroxide, alumina, lithopone, zeolite, barium sulfate, calcium sulfate, titanium dioxide, zinc sulfide and zinc carbonate; and organic pigments, such as styrene pigment, acrylic pigment, urethane resin and melamine resin" (Column 28, lines 26-44).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the recording papers disclosed by Taguchi (7,052,534 B2) for the ink jet printer of Breton (US 5,211,747). The motivation for doing so would have been "to

provide an inkjet recording ink, an inkjet ink set and an inkjet recording method which hardly cause the ink images to become blurred even under high humidity conditions" (Column 1, lines 52-55).

### *Response to Arguments*

Applicant's arguments, see pages 1-3, filed 16 May 2007, with respect to claims 1 and 8 have been fully considered and are persuasive. The final rejection dated 5 March 2007 of claims 1-8 and 10-13 has been withdrawn.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is (571) 272-2810. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GSM
5/21/2007

GM

STEPHEN MEIER
SUPERVISORY PATENT EXAMINER